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Prepared by OS Integration

Compaq Computer Corporation

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Migrating from SCO OpenServer™ 5.0.5 to UnixWare® 7.1 Using Compaq SmartStart v4.23

Abstract: This Integration Note provides requirements and guidelines for migrating SCO OpenServer 5.0.5 to UnixWare 7.1 on your Compaq servers.

More specifically, we discuss four topics:

- New features and enhancements of UnixWare 7.1
- Pre-installation tasks, to include checking for the latest drivers and backing up your current system
- Installation scenario using Compaq SmartStart for Servers
- Post-installation tasks, to include creating emergency recovery backup media

Due to the technical nature of the material presented, we must presume that you already have a thorough knowledge of Compaq Server products and SCO UNIX operating systems.

Note: Compaq highly recommends that you read this Integration Note from cover-to-cover BEFORE proceeding with the upgrade process.

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Migrating from SCO OpenServer™ 5.0.5 to UnixWare® 7.I Using Compaq SmartStart v4.23
Integration Note prepared by OS Integration

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Overview

Although SCO will continue to support users running OpenServer 5.0.5 on Compaq servers, there are many reasons for migrating to UnixWare 7.1, including new 64-bit technologies, emerging clustering technologies, superb manageability, and improved scalability.

In this Integrating Note, we list these exciting features that are optimized on Compaq servers, then focus on preparing for the migration—to include checking hardware and software requirements, locating the latest OS patches and supplements, and backing up your OpenServer 5.0.5 system. Next, we present a detailed installation scenario using the Compaq integration tool: SmartStart for Servers. Lastly, we show you how to restore your files/filesystems and how to create emergency recovery backup media.

New Features and Enhancements of UnixWare 7.1

UnixWare 7.1 enhances Compaq's availability to provide the significant business advantage of our enterprise-class, Intel processor-based servers to UNIX customers across a broader spectrum of industries and applications. Here are only a few of the impressive UnixWare 7.1 features that *come alive* on Compaq servers:

- An evolutionary path for SCO OpenServer Release 5.0.5 customers to state-of-the-art networking computing technologies, 64-bit technologies, and emerging clustering technologies
- Compatibility of many OpenServer 5.0.5 applications that can run on UnixWare 7.1 with little or no modification
- Automatic detection of Industry Standard Architecture (ISA) network cards; graphic cards; and plug-and-play Peripheral Component Interface (PCI) cards
- Scalable Message Store with support for local, remote, and mobile mail services
- Increased memory and storage capacity when combined with Compaq world-class servers:
  - Up to 64 GB of memory
  - 1 TB file/filesystems and disk partitions
  - Up to 76,800 TB of storage
  - Up to 32 CPUs supported
  - Support for I_2O mass storage devices
  - Support for PCI Hot Plug
- Extensive modem support (I000+) and automatic detection of modems
- Improved scalability so that systems, large and small, will squeeze out every last ounce of performance from the powerful Symmetrical Multi-Processing (SMP) kernel with high-availability extensions, sucb as RAID.
- Fully integrated networking capabilities including web browsing, web serving, Java development and runtime capabilities, and support for today's high-speed networking

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hardware technologies (ISDN and LDAP and PPP protocols) that are building the backbone of business-critical networks

- The Webtop that instantly web-enables existing applications; users and administrators no longer bave to learn how to access remote systems, run emulators, or launch access applications on the server
- Advanced Filesystem Management that centralizes tape backups and restores with the ARCserve® OpenLite product from Cheyenne; also offers concatenation and disk spanning
- Year 2000 ready, EURO support, and UNIX95 compliant.

For more information on UnixWare 7.1 features, visit the SCO website at http://www.sco.com/unixware.

Pre-installation Tasks

To ensure a smooth transition from your SCO OpenServer 5.0.5 operating system to UnixWare 7.1, you need to prepare a comprehensive migration plan. This will avoid confusion and frustration, insufficient hardware capabilities, data loss, and installation delays. At a minimum, a migration plan should include these pre-installation tasks:

- ✍ Check minimal hardware requirements.
- ✍ Check minimal software requirements.
- ✍ Obtain your UnixWare 7.1 license.
- ✍ Check for the latest drivers and utilities.
- ✍ Create EFS diskettes.
- ✍ Check for the latest OS patches and supplements.
- ✍ Backup your current system.

✍ Check Minimal Hardware Requirements

Confirm that your hardware supports this upgrade. Table 1 lists the basic system requirements and the SCO-preferred requirements for UnixWare 7.1.

Table 1. UnixWare 7.1 minimal and preferred requirements

Minimal Requirement	SCO-preferred Requirement
32 MB of memory	64 MB of memory
1-GB hard drive	4-GB hard drive
Graphics-800 X 600 VGA	Graphics-800 X 600 VGA

A basic rule of thumb for RAM is a minimum of 32 MB for a graphical interface with an additional 4 MB for each concurrent user. For our migration scenario, we have five users so our minimum RAM requirement would be 52 MB (5 users x 4 MB) + 32 MB).

Be sure to also plan for enough swap space. Look at Table 2 for the SCO-recommended swap space.

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Table 2. SCO-recommended memory swap space

System Size	Swap Space
32 MB	52 MB
64 MB	75 MB
256 MB	200 MB
1026 MB	430 MB
4096 MB	1330 MB

SCO offers several avenues for checking updated specific system requirements for processor, memory, and disk space; as well as checking compatibility requirements for adapters, controllers, drive arrays, and other devices. For a more detailed listing, see the *UnixWare 7.1 Installation Guide* (included with your UnixWare 7.1 software) or visit the SCO-compatible hardware website: http://wbd1.sco.com/chwp/owa/hch_search_corp.action. Also see Appendix A.

Since Compaq and SCO work closely to develop compatible software and hardware products, you can be sure that each new SCO operating system release has been thoroughly tested on Compaq equipment. This joint testing ultimately results in optimal hardware/software compatibility. In fact, nearly all Compaq servers have earned the title of *SCO Certified* for UnixWare 7.1 and 7.0.1. See Table 3 for a list of SCO-certified Compaq servers that support UnixWare 7.1 and 7.0.1.

Table 3. SCO-certified Compaq servers for UnixWare 7.1 and UnixWare 7.0.1

Compaq Server	UnixWare 7.1	UnixWare 7.0.1	Processor	Bus
ProLiant 1200		👍	Pentium® II/233	EISA, PCI
ProLiant 1600		👍	Pentium® II/266	EISA, PCI
ProLiant 1600		👍	Pentium® II/300	EISA, PCI
ProLiant 1600		👍	Pentium® II/450	PCI, ISA
ProLiant 1600	👍	👍	Pentium® III/500	PCI, ISA
ProLiant 1850R		👍	Pentium® II/450	PCI, ISA
ProLiant 1850R		👍	Pentium® III/500	PCI, ISA
ProLiant 2500		👍	Pentium Pro™ /200	EISA, PCI
ProLiant 3000		👍	Pentium® II/450	PCI
ProLiant 3000	👍	👍	Pentium® III/500	PCI
ProLiant 5000		👍	Pentium Pro™ /200	EISA, PCI
ProLiant 5500		👍	Pentium Pro™/200	EISA, PCI

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Table 3. SCO-certified Compaq servers for UnixWare 7.1 and UnixWare 7.0.1 (cont)

Compaq Server	UnixWare 7.1	UnixWare 7.01	Processor	Bus
ProLiant 5500		👍	Pentium® II Xeon/450	PCI, ISA
ProLiant 5500	👍	👍	Pentium® III Xeon/500	PCI, ISA
ProLiant 6000		👍	Pentium Pro™/200	EISA, PCI
ProLiant 6000		👍	Pentium® II Xeon/450	PCI
ProLiant 6400R	👍	👍	Pentium® III Xeon/500	PCI
ProLiant 6500		👍	Pentium Pro™/200	EISA, PCI
ProLiant 6500		👍	Pentium® II Xeon/400	PCI
ProLiant 6500	👍	👍	Pentium® III Xeon/500	PCI, ISA
ProLiant 7000		👍	Pentium Pro™/200	EISA, PCI
ProLiant 7000		👍	Pentium® II Xeon/450	PCI/ISA
ProLiant 7000	👍		Pentium® III Xeon/500	PCI
ProLiant 800		👍	Pentium Pro™ /200	PCI, ISA
ProLiant 800		👍	Pentium® II/450	PCI, PCI/ISA
ProLiant 800	👍	👍	Pentium® III/500	PCI, ISA
ProLiant 850R		👍	Pentium Pro™/200	PCI, ISA
ProSignia 200		👍	Pentium ®II/266	PCI, ISA
ProSignia 200		👍	Pentium® II/300	PCI, ISA

Legend: 👍= SCO-certified Compaq servers

IMPORTANT: Compaq does not support UnixWare 7.0 since it is not Y2K compliant.

✍ Check Minimal Software Requirements

Gather all required software for the migration. The SCO Installation Media Kit accompanies your copy of the OS and contains required software and documentation to help you successfully install

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and implement UnixWare 7.1. Although SCO also offers many optional software packages, the following packages are mandatory:

- UnixWare 7.1 Installation CD, unless installing over the network
- UnixWare 7.1 Operating System Updates CD
- UnixWare 7.1 Optional Services CD
- UnixWare 7.1 Installation [boot]diskettes (2)
- Compaq SmartStart and Support Software v4.23 CD (includes the Extended Feature Supplement (EFS v7.25)) and the Compaq Server Profile diskette. This package is required for our SmartStart installation.

Note: If you do not have the SmartStart v4.23 CD, you might need to download the EFS, ROMPaqs, or other utilities from the Compaq website. See Table 4.

- Six blank diskettes, four (4) of which are DOS formatted. The formatted ones will be used to create one (1) Compaq HBA diskette, two (2) Compaq EFS diskettes, and one (1) Compaq Documentation diskette; the unformatted ones will be used to create one (1) User Account diskette and one (1) Configuration Backup diskette.
- UnixWare 7.1 Host Bus Adapter (HBA) diskette
- UnixWare 7.1 Patches and Supplements downloaded from the SCO website

In addition, the optional Compaq Management CD (contains Compaq Insight Manager and Insight Management Agents) and the UnixWare Development Kit CD are highly recommended.

✍ Obtain Your UnixWare 7.1 License

Obtain your activation keys and license (a printed Certificate of License and Authenticity from your SCO-authorized reseller). They contain specific numerical codes and data to successfully start the upgrade process.

Note: A complete listing of upgrade model numbers and pricing can be found on the SCO website http://www.sco.com/unixware/model_numbers/.

✍ Check for the Latest Drivers and Utilities

Sets of compatible drivers and utilities are released in kits. The majority of the most current drivers and utilities for UnixWare 7.1 can be found on the Extended Feature Supplement (EFS), which comes on the Compaq SmartStart and Support Software CD that is delivered with each Compaq server. With a SmartStart installation these drivers and utilities will be automatically loaded. Compaq drivers on the EFS v7.25 include the following:

❒ **Compaq NetFlex Controller Support**

❒ **Compaq Netelligent Controller Support**

❒ **Compaq SCSI Support**

- Compaq 32-Bit Fast-SCSI-2 Controller card
- Compaq 32-Bit Fast-Wide SCSI-2/E Controller card

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- Compaq 32-Bit Fast-Wide SCSI-2/P Controller card
- Compaq 32-Bit Fast-Wide Ultra SCSI Controller card
- Compaq Dual Channel Wide-Ultra SCSI-3 Controller card
- Compaq 64-Bit Dual Channel Wide-Ultra2 SCSI Controller card

❒ **SCSI-2 support also includes driver support for the integrated SCSI-2 options port on the Compaq SystemPro/XL Server**

❒ **Compaq Drive Array Support**

- Compaq Intelligent Drive Array Controller
- Compaq IDA-Expansion Controller
- Compaq IDA-2 Controller
- Compaq SMART Controller
- Compaq SMART-2/E Controller
- Compaq SMART-2/P Controller
- Compaq SMART-2/SL Controller
- Compaq SMART-2/DH Controller
- Compaq Smart 3100ES Controller
- Compaq Smart 3200 Controller
- Compaq Smart 221 Controller

❒ **Compaq Wellness Driver (Server Health Driver)**

Note: Although not mandatory, the Wellness driver monitors temperature conditions, fan operations, EISA and PCI bus utilization, redundant power supply status, ECC Memory errors, and critical server errors that are logged into the Integrated Management Log. It also provides Automatic Server Recovery after a server failure.

❒ **Compaq Fibre-Channel Drive Array Support**

The EFS also includes several utilities to monitor and increase the performance of your Compaq server:

❒ **Compaq Standby Server Daemon Utilities**

❒ **SCSI-2 Management Utility.**

❒ **Intelligent Drive Array (IDA) Diagnostic Utility.**

❒ **Compaq Ultra Diagnostic Utility**

❒ **Compaq Fibre Channel Manager Utility**

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Note: Compaq will also be releasing the Online Array Configuration Utility for SCO in the near future.

New releases of drivers and utilities flow through the various distribution channels at different rates; the version of a driver downloaded from one source may be older than one from a different source—even from the most recent EFS.

The drivers in one version may even be incompatible with the drivers in the next release.

So, you should also check the SCO website, www.sco.com; the SCO ftp site, ftp://ftp.sco.com; and the Compaq website, www.compaq.com for the latest drivers and utilities that support UnixWare 7.1.

For a complete list of sources for Compaq drivers and utilities, see Table 4.

Table 4. Location of Compaq device drivers and utilities

Software	Location
Compaq Array Configuration Utility	http://www.compaq.com/support/files/server/softpaqs/Rompaq/arrayconfig.html
Compaq ROMPaqs and utilities index	www.compaq.com/support/files/server/Rompaq/index.html
Compaq Wellness Driver	www.compaq.com/support/files/server/softpaqs/UNIX/scowellness.html
Compaq SmartStart and Support Software CD	Distributed with new servers
	Subscription Service: www.compaq.com/support/files/portables/us/ssminfo.html
Compaq System Configuration Utility	www.compaq.com/support/files/server/softpaqs/Rompaq/sysconfig.html
Drivers/driver supplements for UnixWare 7.1	ftp://ftp.sco.com/pub/drivers/UW710
Extended Feature Supplement (EFS 7.25) for UnixWare 7.1	http://www.compaq.com/support/files/server/softpaqs/UNIX/EFS70.html

Be sure to also read any documentation that accompanies each driver or utility to ensure its compatibility with your new UnixWare 7.1 OS. The day before you install UnixWare 7.1, you should also checkout the *UnixWare 7.1 Runtime Release Notes* at http://uw7doc.sco.com/LateNews/RNSWbef.html for late-breaking hardware and installation notes.

✍ Create EFS Diskettes

If you have verified that the latest drivers and utilities reside on the web, download the files to a Windows-based system and create four diskettes: Compaq HBA, Compaq EFS #1, Compaq EFS #2, and Compaq Documentation. Read the text file instructions that accompany the software and follow the instruction guidelines. If the EFS on the SmartStart and Support Software CD) is the most recent, you will create these diskettes during the installation process in Step 13.

✍ Check for the Latest OS Patches and Supplements

There are a number of OS patches, additional features added, and newer versions of other features that are contained in the *SCO Release Supplement*. In these supplements, there are also a number of corrections to the *UnixWare 7 Release Notes* that Compaq considers necessary for proper operation of UnixWare 7.1 on Compaq servers. Release supplements can be found on the SCO

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website http://www.sco.com/support/ftplists/uw7list.html and are usually divided into major supplements, minor supplements, device drivers, and security supplements.

Table 5 lists the most current patches and supplements for UnixWare 7.1 as of Jun 14, 1999. The Compaq-recommended items are each proceeded by an asterisk.

Table 5. OS patches and supplements for UnixWare 7.1 as of publication

Type	Location	Item
Major Supplement	ftp://ftp.sco.com/supplements	Client Agents for ARCserveIT v6.6
Minor Supplements	ftp://ftp.sco.com/sls	* ptf7035a: CDFS Concurrency supplement
		* ptf7401b: In-kernel Sockets supplement
		* ptf7402a: acctsh and clock supplement
		* ptf7410a: libthread supplement
		* ptf7413a: fs driver supplement
		* ptf7414a: libc supplement
		* ptf7420a: ktli and nfs drivers supplement
		ptf7045c: Intel Microcode driver
		ptf7066a: I2O subsystem patch
		ptf7067e: I2O mass storage HBA
		ptf7083b: Reliant HA gratuitous arp supplement
		ptf7125a: ARCserveIT v6.6.0 Auto pilot upgrade patch
		ptf7132a: Webtop 1.3 supplement
		ptf7406b: Pentium II and Pentium III supplement
		ptf7407b: Crash Utility supplement
		ptf7411a: password display patch
Security Supplements:	http://www.sco.com/security	* ptf7408b: security fix

IMPORTANT: Always check the SCO website and ftp site for the latest information.

Backup Your Current System

To migrate from SCO OpenServer 5.0.5 to UnixWare 7.1, backup your data and hardware configurations to (1) a removable media—such as cartridge tape—or to (2) a file that can be transferred over the network or to (3) another system on the network.

Then record your current configuration settings on a blank diskette.

Backup your data into a filesystem-independent format

The VERITAS File System (VxFS) is the default filesystem in UnixWare 7.1 and supports files/filesystems up to 1 TB. S5, Unified Filesystem (ufs), and Security Filesystem (sfs) are also approved file formats. SCO OpenServer 5.0.5 file formats include the High-Throughput Filesystem (HTFS), Desktop Filesystem (DTFS), Acer Fast Filesystem (AFS), Extended Acxer Fast Filesystem (EAFS), and S5.

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Note: S5 is the only Unix Filesystem from OpenServer 5.0.5 supported in UnixWare 7.1.

Table 6 lists the SCO OpenServer 5.0.5 data and configuration files you will need to archive.

For some data, such as password files and Domain Name Services (DNS) files, the files will work as they did with SCO OpenServer 5.0.5. Other data, such as MMDF mail configuration and printer configuration scripts will not work on UnixWare 7.1. These must be re-written. Visit the SCO website http://www.sco.com/upgrade/uw7doc for more information.

Table 6. Data and configuration files to backup

Type of Data	Directory
FTP server configuration	etc/ftpusres, /etc/shells, /etc/ftpaccess, /etc/ftpconv
Network File System (NFS)	/etc/default/filesys, /etc/exports, /etc/auto.master, /etc/auto.direct, /etc/auto/indirect
Network Information Services (NIS)	/etc/ethers, /etc/networks, /etc/protocols, /etc/services, /etc/bootparams, /etc/netgroup, /etc/auto.master, /etc/rpc, /etc/TIMEZONE, /etc/netgroup, /etc/netmasks, /etc/hosts, /etc/passwd, /etc/shadow and /etc/group
TCP/IP configuration	/etc/hosts, /etc/tcp, /etc/inetd.conf
User data	/usr
users and group configuration	/etc/passwd, /etc/shadow and /etc/group

Note: For porting software applications to your new system, contact the appropriate vendor for instructions.

There are several methods for archiving and restoring data on your UnixWare 7.1 system.

- **ARCserve IT v6.6 from Computer Associates** — a comprehensive, easy-to-use product for archiving and restoring.
- **Emergency Recovery Backup Method** — SCO commands (**emergency disk and emergency rec**) that create bootable diskettes and tape (s) to archive the primary hard disk.
- **Other SCO commands — ufsdump and ufsrestore** for archiving *ufs* systems; **cpio, tar**, and **volcopy** for archiving and restoring UnixWare systems; **cpio** is especially suitable for transferring files between different types of UNIX systems.

  For this Integration Note, we will use the last two methods.

Data Backup Procedure

1. Change directories to the top level of the data you want to migrate, using the command

   cd /<directory path>.

2. Enter one of the following three **cpio** commands:
   - To archive to cartridge tape, use the command

     find . -depth -print -follow | cpio -ocvdB -O /dev/rct0

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Note: If your archive spans multiple tapes, you may also need to specify the block and volume sizes. See the SCO manual page for **cpio** for more information.

- To archive to a file which can be transferred over the network, use the command **find . -depth -print -follow | cpio -ocvd > /tmp/name.cpio.** (name identifies cpio archive)
- To copy your files to another system on your network, use *ftp* or another file transfer program. You can then copy these files to your UnixWare 7.1 system after it is installed.

User Profile Backup Procedure

- Copy user profile (*profile.acct*) to your hard drive using the command **ap -d –v usernames > profile.acct**
- Copy file to the blank User Account diskette using the command **tar cv profile.acct**

Backup your configuration settings

Use the SCOAdmin Utility to gather configuration information. Record the information on a blank diskette. You will need these settings when you configure your new system.

Record your video adapter configuration

Most video adapters are automatically detected and configured when you install your UnixWare 7.1 system. However, you should record your video configuration from your OpenServer 5.0.5. operating system in case the following happens:

- UnixWare 7.1 cannot automatically configure the adapter
- UnixWare 7.1 incorrectly configures the adapter
- You incorrectly configure the adapter manually and need to restore the default configuration

Video Adapter Configuration Backup Procedure

1. Enter **scoadmin.**
2. Select Video Configuration Manager.
3. Record the following on your diskette: (1) adapter name, (2) monitor, (3) resolution.

Record your modem configuration

Modem Configuration Backup Procedure

1. Enter **scoadmin.**
2. Select Modem Manager.
3. Select Modem.
4. Select Modify.

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5. Record the following on your diskette: (1) vendor name, (2) model, (3) line speed.

Record your TCP/IP configuration

You should record all the existing network interfaces so that you can configure these on your UnixWare 7.1 system.

TCP/IP Configuration Backup Procedure

1. Enter **scoadmin.**
2. Select Network Configuration Manager.
3. Select Protocol.
4. Select View Protocol Configuration.
5. Record the following on your diskette: (1) hostname, (2) domain name, (3) IP address, (4) netmask, (5) broadcast address, (6) frame type. See Figure 1.

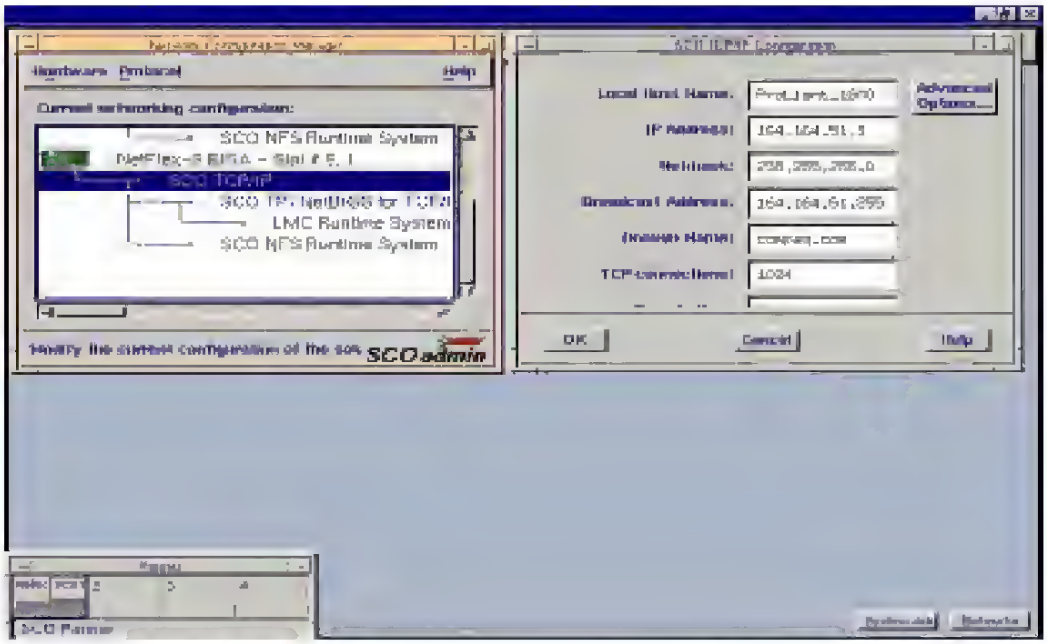

Figure 1. View of current TCP/IP Configuration Select SCO TCP/IP

6. Select Advanced Options.
7. Select Advanced Options.
8. Record (7) gateway and (8) frame format.

Record your Network File System (NFS) information

Be sure that you have backed up all the necessary NFS files listed in Table 6.

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Record your Network Information Service (NIS) information

Be sure that you have backed up all the necessary NIS files, listed in Table 6, and that you know the following: (1) domain name, (2) which server is the master, (3) which server is the slave, (4) which computers are clients, and (5) what files reside on each.

Installation Scenario Using Compaq SmartStart

You can choose either of the following methods to install your UnixWare 7.1 System.

- Automatic installation using the Compaq SmartStart for Servers integration tool
- Manual installation using only the printed SCO *UnixWare 7.1 Installation Guide* available with the Installation CD

Note: The custom utility used in SCO OpenSever for installation of software is not available on UnixWare 7.1.

This Integration Note details the migration process using SmartStart for Servers (Assisted Integration) that assists you in the setup, configuration, and installation of your UnixWare 7.1 system. More specifically, the major benefits of SmartStart include the following:

- Auto-detects and configures the Compaq server hardware and options
- Ensures installation of the correct Compaq drivers
- Provides a SmartStart Interview that highlights and enables configuration of powerful Compaq server features, such as Automatic Server Recovery (ASR)

A Compaq SmartStart and Support Software CD ships with each Compaq server. As each version of SmartStart is released, it supports the current version of SCO UnixWare. It also knows how to handle any previous version. If you obtain a later release of a SCO OS, you probably need to get a newer version of SmartStart.

Table 7 lists the available software packages on the SmartStart CD that pertain to a SCO UNIX installation and operation.

Table 7. SmartStart and Support Software CD

Item	Description
Compaq Array Configuration Utility	Setup program for Compaq array controllers that configures physical drives attached to the controller into arrays and logical drives that the OS uses
Compaq Array Diagnostic Utility	Diagnostics for Compaq drive arrays
Compaq Options ROMPaq	For updating the onboard ROM on all Compaq options that support *flashing* to take advantage of expanded capabilities
Compaq System Configuration Utility	Configuration tool for the server and its expansion boards
Compaq Systems ROMPaq	For updating the system ROM in all Compaq Servers that support *flashing* to be sure that the server can utilize all the capabilities of new hardware
Extended Feature Supplement (EFS)	Collection of the latest drivers, utilities, patches, supplements, and other information for enhancing SCO UNIX operations on Compaq systems; includes installation instructions and HBA creation
SmartStart for Servers	Windows-based program that guides you through the setup of your server hardware and operating system

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Compaq also provides customers with the ability to purchase a Compaq SmartStart and Support Software CD subscription that provides the latest management and support software on a regular basis, usually monthly. More information about this subscription service, including an online order form, can be obtained from the Compaq website http://www.compaq.com/support/files/portables/us/ssminfo.html.

Now we shall proceed with the installation of UnixWare 7.1.

Migration Environment

- ProLiant 1600R with 450 MHz Processor
- Embedded 876 as Boot Controller
- Fibre Channel Controller with one logical drive attached to a Fibre Channel Storage System
- Netelligent 10/100 TX UTP Controller
- SCO OpenServer 5.0.5 to UnixWare 7.1
- EFS 5.25 on SCO OpenServer 5.0.5; EFS 7.25 for UnixWare 7.1
- (NIS) Configured. Host system was master with two NIS clients
- NFS Configuration
- 5 users
- TCP/IP network configuration
- FTP Server
- Point-to-Point Protocol (PPP) Configuration

Basic Installation Steps

As we have already stated, Compaq highly recommends that you backup your server BEFORE you upgrade to UnixWare 7.1. Afterward, you can then proceed with the following basic installation steps. And although you should be able to easily follow the detailed *SCO Installation Guide*, every migration entails a few incompatibilities, workarounds, or special considerations. For that reason, we will highlight and expound upon some of the more critical steps.

Step 1: Enter command for SmartStart workaround.

IMPORTANT: Currently, SmartStart v4.23 will not boot on an OpenServer 5.0.5 system that had been installed using SmartStart for Servers. Use the following temporary workaround. Sign in as root and run the command **#/usr/user/local/compaq/bin/eisaCfg –w CQTBOOTIN 0**. This problem should be fixed in SmartStart 4.40.

Step 2: Physically install additional RAM and/or hardware devices.

Power down your server. Then physically install additional RAM, expansion boards, hard drives, and other devices that you will need on your new UnixWare 7.1 system. Check the SCO website at www.SCO.com for compatible hardware. Then power on your server.

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Step 3: Insert your SmartStart and Support Software CD.

Step 4: Insert your Compaq Server Profile diskette.

This is a new feature of SmartStart and ships with your SmartStart CD v4.23.

Step 5: Update firmware (ROMPaqs).

You can easily update the onboard firmware (operating program in ROM) in your Compaq server and for most Compaq options. This is done by *flashing* the ROM, using the special Compaq utilities—System ROMPaq and Option ROMPaq— listed in Table 7. These utilities replace the existing contents of the ROM with an updated version stored on the Compaq SmartStart and Support Software CD.

To obtain even more recent System and Option utilities, you might have to download the SoftPaqs from the Compaq website www.compaq.com/support/files/server/Rompaq/index.html and follow the instructions that accompany the SoftPaqs.

Step 6: Run the Compaq Erase Utility.

Step 7: Cycle power.

Step 8: Select UnixWare 7.1 as your OS.

SmartStart will prompt you to select a language, to set the date and time, to agree to the licensing agreement, and to choose a SmartStart path: Manual or Assisted Integration. (This Integration Note describes the *Assisted Installation* procedure).

Step 9: Configure your system and create System Partition.

With SmartStart, the Compaq System Configuration Utility starts automatically. You should review your current system configuration (see Appendix B) at this time to ensure that no hardware configuration conflicts exist. SmartStart will also automatically create your System Partition.

Of prime importance, you should check if the SCO OpenServer 5.0.5 controller order, Host Bus Adapter (HBA) number, device interrupts, and SCSI IDs match the ones needed for UnixWare 7.1.

System Configuration Procedures

- Select Review and Modify Your System.
- Select Hardware.
- Select View and Edit Details.
- Change the current configuration information to match the configuration from your OpenServer 5.0.5 system: (1) controller order, (2) Host Bus Adapter numbers, (3) device interrupts, and (4) SCSI IDs. See Appendix B.
- Save your configuration and restart your server.

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System Partition Tips

SmartStart automatically creates your System Partition at this time. The partition is approximately 40 MB. You can use the rest of the disk to install UnixWare 7.1 or you can partition your disk (up to four). See the *SCO UnixWare 7.1 Installation Guide* for more details.

Your utilities run faster when executed from the System Partition.

A word of caution: Creating a boot partition will remove all data on the hard disk. Do not remove or reconfigure the System (boot) partition from this point on because it now contains information specific to your current hardware setup. Compaq utilities also use the system partition for diagnostics.

Note: Storing your Compaq utilities in the System Partition also eliminates the need to store and track diskettes.

See the Integration Note: *Compaq and SCO UnixWare 7 Frequently Asked Questions* (Document #ECG030/0698) on the Compaq website, www.compaq.com, for more detailed information.

Note: You can now run Compaq System Configuration Utility during startup from the System Partition by pressing **F10.**

Step 10: SmartStart automatically runs the Array Configuration Utility (if you have arrays).

Step 11: Select additional software.

At this time, SmartStart lists several optional software packages, which optimize server management and performance, as well as their setup procedures. You may defer the software installation to a later time.

Options include

- Configuration of Automatic Server Recovery (ASR)
- Selection of Network Media Connection. (Default is 10/100 Base-T connector)
- Setup of IRC
- Installation of Compaq Insight Manager

  Compaq Insight Manager is automatically selected. See the "Migration Tips" in this section. At the prompt insert the Compaq Management CD so that SmartStart can check the version number

Save your configuration and restart your server.

Migration Tips

- Insight Manager monitors performance on your Compaq server including HBAs, disks, NICs, system boards, and cooling fans. Currently, you can only run Insight Manager on a Microsoft Windows 95, 98, or NT system. If you do not wish to install this management tool at this time, you must de-select this option.

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- If you wish to configure identical systems on other servers, save a copy of your system configuration to your Server Profile (Replication) diskette and port the diskette to your other designated servers.

You are now ready to start the Start SmartStart Interview.

Step 12: Check your UnixWare 7.1 Installation CD.

SmartStart automatically starts the Interview process (installation guide) and checks the version information of your SCO UnixWare 7.1 CD. Follow these procedures:

1. Remove the SmartStart CD.
2. Insert the UnixWare 7.1 Installation CD.
3. After SmartStart checks the UnixWare CD, remove the OS CD.
4. Insert the SmartStart CD.

Note: Your UnixWare 7.1 does require newer drivers than those provided on your SCO media, so SmartStart will prompt you to create a new Host Bus Adapter (HBA) diskette for use during the install.

Step 13: Create new EFS diskettes (including an HBA diskette).

Once the OS version is verified, the Interview process may resume. SmartStart now prompts you to create four EFS diskettes, including the Host Bus Adapter (HBA) diskette.

The EFS is a collection of device drivers that provide maximum performance with Compaq hardware. It also includes several utilities to monitor and increase the performance of your Compaq server. Refer back to section "Create EFS diskettes" to see if you need to proceed with this step.

If so, follow these procedures:

1. Insert SmartStart CD.
2. Select Create EFS diskettes.
3. Select Create a Compaq Host Bus Adapter diskette.
4. Insert a DOS-formatted diskette and create the Compaq Host Bus Adapter diskette.
5. Insert a DOS-formatted diskette and create the Compaq EFS #1 diskette.
6. Insert a DOS-formatted diskette and create the Compaq EFS #2 diskette.
7. Insert a DOS-formatted diskette and create the Compaq Documentation diskette.

Migration Tips

The HBA diskette contains up-to-date drivers and support software needed to run SCO UNIX Ware 7.1 on your particular server.

Traditionally, the term HBA only referred to SCSI Host Bus Adapters. In UnixWare, every disk controller is now referred to as an HBA, even if it's non-SCSI.

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Step 14: Remove SmartStart CD when prompted.

Step 15: Insert the UnixWare 7.1 [boot] diskettes and restart your server.

Insert the UnixWare 7.1 [boot] Diskette #1. Keep your license and activation keys close. You will need the license number, code, and other data. Remove diskette.

Insert the UnixWare 7.1 [boot] Diskette #2. UnixWare 7.1 Documentation and Manual Pages (SCO Online Help) are automatically installed at this time. Remove diskette.

Insert the UnixWare 7.1 Installation CD and continue with the installation.

Step 16: Insert additional UnixWare 7.1 CDs and the HBA diskette, when prompted.

- Insert the UnixWare 7.1 Operating System Updates CD for more layered products.
- Remove the UnixWare 7.1 Operating System Updates CD.
- Insert the UnixWare 7.1 Installation CD.
- Install the latest copy of the HBA.
- Remove the UnixWare 7.1 Installation CD.
- Insert the UnixWare 7.1 Optional Services CD for lnternet services, such as Netscape; Windows connections; ARCserve IT; and other services.
- Remove the UnixWare 7.1 Optional Services CD.

Step 17: Remove the EFS from the System Partition.

SmartStart automatically installs the Compaq EFS v7.25 for SCO UnixWare 7.1 during the installation process. However, since updates to the drivers and utilities may occur more frequently than a new OS release or an EFS release, you might need to install a newer EFS version than the one on your SmartStart CD. See section "Check for the latest drivers and utilities."

If you wish to install a newer version of the EFS, you must first remove the old drivers and utilities. This rule also applies to updating only a particular driver or utility in the future. Removing the EFS also ensures the integrity of the OS patches and supplements.

For this Integration Note, we will delete the old EFS. Check for the following drivers, utilities, and documentation among the installed packages.

- cpqdoc - Compaq EFS documentation package
- cpqhpcd - Compaq PCI Hot Plug Driver update
- ptf7012 - UnixWare 7 SNMP ptf (i386)b
- ptfcasa - Compaq Attached Storage Array Driver
- ptfcasau - Compaq Fibre Channel Diagnostic Utility
- ptfcnet - Compaq Cnet Network Driver
- ptfcpqasr - Compaq Advanced Server Recovery

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- ptfcpqsmu - Compaq SCSI-2 Management Utility
- ptfcrom - Compaq CROM Driver
- ptfcpqw - Compaq Wellness Driver
- ptfcrid - Compaq Remote Insight Board Driver.
- ptfcultra - Compaq Wide-Ultra SCSI Utility.
- ptfidamnu - Compaq IDA Diagnostic Utility.
- ptfn1000 - Compaq Gigabit NIC/Module Driver.
- ptfn100c - Compaq Ethernet or Fast Ethernet NIC driver.
- ptfssd - Compaq Standby Server Daemon Utility.

If installed, remove the appropriate packages.

Step 18: Insert the Compaq Management CD when prompted.

SmartStart loads Insight Manager and the Insight Management Agents.

Step 19: Install any relevant OS patches and supplements.

You need to install several other patches and supplements that were initiated after SmartStart v4.23. See the section "Check for the Latest OS Patches and Supplements." To install a patch or supplement, follow the installation instructions given in the cover letter or documentation file.

Step 20: Install new EFS.

Use the latest version of the EFS created in section "Create EFS Diskettes" or in Step 13. Continue with your installation.

EFS Installation

1. Log in as root.
2. Insert your first Compaq EFS diskette.
3. Enter **pkgadd -d diskette1**.
4. Press **Enter.** A list of software packages is displayed.
5. Select All. Before installation of each package, a description about the package is displayed and a confirmation is asked to install the package. See Figure 2.

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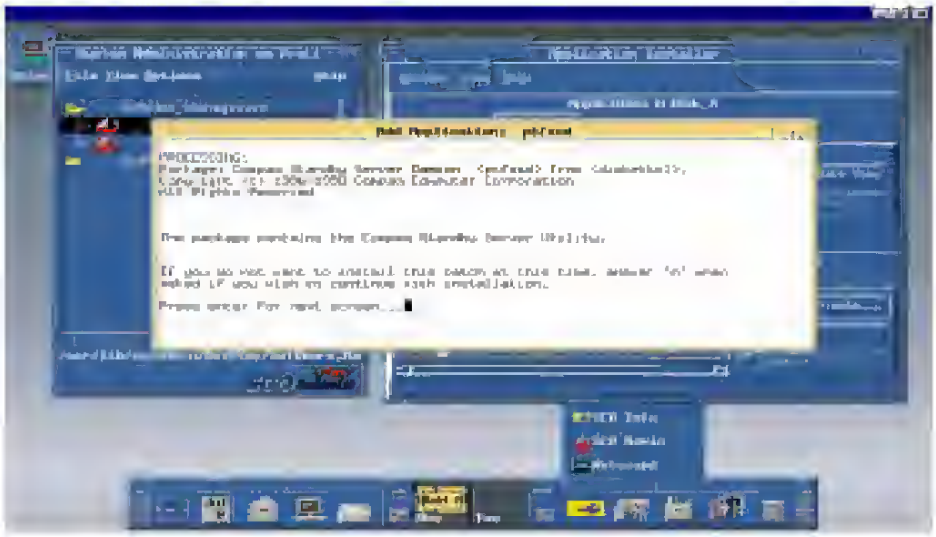

Figure 2. EFS software description

6. Press **Enter** if you wish to install the package.
7. Continue the procedure until all packages are installed.
8. Complete Steps 2-7 for all four EFS diskettes, changing the "1" to "2,""3," and "4, as appropriate."

Migration Tip

After the Compaq EFS is installed, SCO UNIX manual pages are available for online help describing configuration and operations. From a UNIX prompt, type the following to see a list of EFS-related page topics:

man compaq_efs

Step 21: Configure your video adapters.

Follow these procedures:

- Enter **scoadmin.**
- Select Video Configuration Manager.
- Enter information from backup.

Migration Tip

UnixWare 7.1 supports several video adapters—including those supported by OpenServer 5.0.5. In addition, UnixWare 7.1 provides the VESA X server driver. This generic driver can operate any new video card that honors the VESA BIOS interface. This VESA X server driver supplies high-resolution support to any video card that does not have a specific accelerated driver.

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Step 22: Configure your modem.

- Enter **scoadmin**.
- Select Modem Manager.
- Select Manual Configuration.
- Fill in information from backup.
- Select Configure Port.
- Insert port configuration information.
- Exit.

Step 23: Configure your TCP/IP.

- Enter **scoadmin**.
- Enter Network Configuration Manager.
- Select Protocols.
- Select View Protocol Configuration.
- Select TCP/IP as the protocol to be configured.
- Add information from backup.
- Select Advanced Options.
- Add gateway and frame format information from backup
- Exit.

Step 24: Configure your Point-To-Point Protocol (PPP).

- Enter **scoadmin.**
- Select WAN.
- Select Network.
- Select Network Configuration Manager.
- Select Configure PPP.
- Select Bundle.
- Select Configuring Outgoing PPP.
    - Enter Bundle name.
    - Select Outgoing as the Bundle Type.
    - Enter the remote system name and method of initiating the link.
    - Select Edit to add a remote system.
    - Select Add.
    - Enter remote system name, device type, line speed and phone number.

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- Select Edit.
- Insert login name and password.
- Select OK.
- Enter the local IP address, remote IP address and network mask from the backed up information.
- Select OK.
- Select Link Group from the list of available link groups.
- Select OK.
- Select Configure PPP Outgoing Link.
- Highlight Available Configuration.
- Select Modify.
- Insert telephone number of the remote system.
- Select Next.
- Select the required authentication and enter the appropriate details.
- Select Next.
- Enter login name and password.
- Select Next and make the required changes (if you want to configure DNS).
- Select Next.
- Select Finish.
- Select Exit to return to Network Configuration Manager.
- Select Exit to complete the PPP outgoing configuration.

- Configuring Incoming PPP
  - Select Bundles.
  - Select PPP Manager Screen.
  - Enter bundle name.
  - Select Incoming.
  - Disable auto-detected PPP session
  - Enter login username.
  - Select OK to get the Modify IP Protocol Screen.
  - Enter the local IP address, remote IP address, and network mask from backed up information.
  - Select OK to get the Add links Screen.
  - Select the link group, from the list of available link groups.
  - Select OK to complete the configuration.

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- Select Exit from Host menu to return to Network Configuration Manager.
- Select Exit from Hardware menu to complete the PPP Incoming configuration.

Step 25: Remove all CDs and diskettes.

Step 26: Restart (reboot) your system.

Post-installation Tasks

- Restore your filesystems.
- Create emergency recovery backup media.

Restore Your Filesystems

Restore your user and group data files.

1. Restore the user data into **/home** directory.
2. If the data files were archived to a tape cartridge, extract the data by using the command

   cpio -icdv -I /dev/rct0
3. If the data is archived on another system on the network, use *ftp* or another file transfer program system to copy the data onto your UnixWare 7.1 system.
4. If the data will be transferred over the network, use copy it onto the UnixWare 7.1 system the command

   find . -depth -print -follow | cpio -ocvd > /tmp/name.cpio.

   (name identifies cpio archive)

IMPORTANT: You must define the /tmp filesystem as a memfs filesystem if you want to use the UnixWare 7.1 Emergency Recovery Media Utility. See the section "Create Emergency Recovery Media" in the *SCO UnixWare 7.1 Installation Guide.*

---

5. Put in User Profile diskette. Transfer *profile.acct* to the UnixWare 7.1 server on which the accounts are to be created by using the command

   tar xv / profile.acct from the root directory.

Migration Tip

As long passwords are supported in different ways in SCO OpenServer and in UnixWare 7, there are two ways that you can create a user account from the profile depending on bow you want to handle user accounts that bave long passwords.

- Truncate long passwords to 8 characters. Enter the following command:

  ap -r -f profile.acct usernames

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The new accounts should now be in place and ready for use. The **ap** command will warn you if a user password was longer than 8 characters and had to be truncated. You should inform the user that they should only enter the first 8 characters of their password when they first log in. They will also be required to change their password at this time.

- Specify a clear text password using the **-p** option. Enter the following command:

  ap -r -f profile.acct -p password usernames

  All users in the list of usernames whose existing password was longer than 8 characters will be assigned the same password. These users will be prompted to change their password when they first log in. For example, if users Jane and Anshu both had passwords that were longer than 8 characters, the following command sets their login password to Global1:

  ap -r -f profile.acct -p Global1 robert amit jane anshu

Jane's and Anshu's passwords would remain unchanged provided they were less than 9 characters. If you want Jane and Anshu to have different initial passwords, invoke the command separately for each user:

ap -r -f profile.acct -p Hidden1 jane
ap -r -f profile.acct -p Secret1 anshu

Restore your TCP/IP files/filesystems.

Once the system has restarted, add the backed up */etc/hosts* entry to existing /etc/hosts entry by copy and paste with any text editor. The backed up */etc/inetd.conf* file will show the information that was available through inetd daemon. It will help to amend */etc/inetd.conf* files on UnixWare system if required.

Restore your FTP Server.

Follow these procedures:

1. Any username added to your backed up */etc/ftpusers* file will be added to */etc/ftpusers* on your UnixWare 7.1 system in order to continue to deny access to those users.
2. Any shell name added to backed up */etc/ftpshells* file will be added to */etc/ftpshells* on your UnixWare 7.1 system in order to continue to allow access to a user who has one of those shells as their login shells.
3. Copy backed up /etc/*ftpaccess* file to your UnixWare 7.1 system. Then modify the file, as follows:
   - In SCO OpenServer 5.0.5, the **private** keyword is followed by pathname of the group access file.
   - In UnixWare 7.1, it will be modified to *yes* or *no*, and the group access file will be in */etc/ftpgroups*.

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4. Rename your backed up */etc/ftpconv* file as */etc/ftpconversions*. Change the partname of the conversion utility where appropriate, for example */etc/ftpconv* to */ftp/conversions*.

Restore your NFS filesystem.

Use the information from your backed up files to configure your UnixWare 7.1 system. Do not, however, copy the */etc/default/filesys* and */etc/exports* files from your OpenServer system to their equivalents in your UnixWare system as the format of these files is not the same. See Table 8 for new filenames.

Table 8. UnixWare 7.1 filenames for your NFS filesystem

OpenServer 5.0.5	UnixWare 7.1	Definition
/etc/default/filesys	/etc/vfstab	Used by clients to define filesystems to be mounted
/etc/exports	/etc/dfs/dfstab	Used by server to define filesystems that client can mount
/etc/auto.master	/etc/auto.master	Lists initial automount configurations
/etc/auto.direct; /etc/auto/indirect	/etc/auto.home	Lists direct and indirect automount configuration

Migration Tip

It is recommended that you set up automatic sharing when you first set up your Network File System (NFS) if you need to share the same set of resources on a regular basis. For example, if your server is a server that supports diskless clients, you need to make your client root directories available at all times. If you want to set up your system so that certain files and directories are shared automatically whenever you start NFS operations, you need to edit the file */etc/dfs/dfstab*.

Note: The following options, which are supported by mount in SCO OpenServer Release 5, are not supported in UnixWare 7.1: **exec, noexec, trunc, notrunc, tcp**, and **spongy**.

Use the *dfstab* file to list all the resources that your server shares with its clients and to control which clients may mount a resource. Once a resource has been shared on a server through the NFS, it can be accessed from a client. Mounting can be done automatically when NFS operation begins on the client or when NFS is started using the script */etc/init.d/nfs*.

Note: A server can be a client of another server on a local network, in which case, your server *vfstab* file may need to include both local and remote mounts.

Table 9 lists the entries (variables) in the */etc/vfstab* file.

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Table 9. Variables in the *etc/vfstab* file

Variable	Definition
special	Name of the server sharing the resource that the client wants to mount, followed by a colon and the pathname of the resource to be mounted.
fsckdev	Name of a raw device; for a remote mount, the parameter is not applicable and a hyphen (-) should be entered instead.
mountp	The mount point on the client through which the user accesses the resources mounted from the server.
fstype	Type of the mount taking place. An NFS mount is indicated by nfs.
fsckpass	Pass number for multiple fsck, for a remote mount, the parameter is not applicable and a hyphen (-) should be entered instead.
automnt	Indicator of whether the entry should be mounted automatically (yes) or not (no).
mntopts	A list of comma-separated options identical to the options passed to mount.

Example: To automatically mount the directory */usr/local* of the server dancer on the client directory */usr/local/tmp* with read-only permission, add the following line to the client *vfstab* file:

dancer:/usr/local - /usr/local/tmp nfs - yes ro

See your *SCO UnixWare 7.1 Installation Guide* for detailed instructions.

Restore your Network Information Service (NIS).

You may need to copy over the archived */etc/hosts* file. This file contains information about the hostnames and IP addresses of localhost and other systems. It is recommended that you merge this information with the existing */etc/hosts* file to avoid accidentally removing the localhost entry.

Note: NIS in UnixWare 7.x does not support **copyonly** servers.

Note: UnixWare 7.1 NIS files are located in */var/yp* hierarchy rather than */etc/yp* of SCO OpenServer 5.0.5.

For more information on adding and modifying filesystems after your system is installed, see the description of the Filesystem Manager in SCOhelp or refer to *the SCO UnixWare 7.1 Installation Guide.*

Create Emergency Recovery Backup Media

You will typically create Emergency Recovery diskettes and tape(s) only once—after you have installed UnixWare 7.1 and all add-on software. The commands **emergency disk** and **emergency rec** create bootable diskettes and tape(s) to archive your primary bard disk. These commands backup both user and system data and allow recovery if your system is ever non-bootable and/or the hard disk is damaged.

See the *SCO UnixWare 7.1 Installation Guide* for detailed instructions.

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Appendix A: SCO-certified Compaq Controllers and NICs

Table A-1. SCO-certified Compaq storage controllers

Model Name and Number	OpenServer 5.0.5	UnixWare 7.1	UnixWare 7.0.1
32-Bit Fast-SCSI-2 Controller	SCO Certified	SCO Certified	SCO Certified
32-Bit Fast-Wide SCSI-2/E Controller	SCO Certified	SCO Certified	SCO Certified
32-Bit Fast-Wide SCSI-2/P Controller	SCO Certified	SCO Certified	SCO Certified
32-Bit Fast-Wide Ultra SCSI Controller	SCO Certified	SCO Certified	SCO Certified
Dual Channel Wide-Ultra SCSI-3 Controller	SCO Certified	SCO Certified	SCO Certified
64-Bit Dual Channel Wide-Ultra2 SCSI Controller	SCO Certified	SCO Certified	SCO Certified
Intelligent Drive Array Controller	SCO Certified	SCO Certified	SCO Certified
IDA-Expansion Controller	SCO Certified	SCO Certified	SCO Certified
IDA-2 Expansion Controller	SCO Certified	SCO Certified	SCO Certified
IDA-2 Controller	SCO Certified	SCO Certified	SCO Certified
SMART Controller	SCO Certified	SCO Certified	SCO Certified
SMART-2/DH Controller	SCO Certified	SCO Certified	SCO Certified
SMART-2/E Controller	SCO certified	SCO certified	SCO Certified
SMART-2/P Controller	SCO Certified	SCO Certified	SCO Certified
SMART-2/SL Controller	SCO Certified	SCO Certified	SCO Certified
Smart 3100ES Controller	SCO Certified	SCO Certified	SCO Certified
Smart 3300 Controller	SCO Certified	SCO Certified	SCO Certified
Smart 221 Controller	SCO Certified	SCO Certified	SCO Certified
Note: SCSI-2 support also includes driver support for the integrated SCSI-2 options port on the Compaq SystemPro/XL Server.			

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Appendix A: SCO-certified Compaq Controllers and NICs (cont)

Table A-2. SCO-certified Compaq network controllers for SCO OpenServer 5.0.5, UnixWare 7.1, and UnixWare 7.0.1

Model Name and Number	OpenServer 5.0.5	UnixWare 7.1	UnixWare 7.0.1
Fast Ethernet NIC NC3122	SCO Certified	SCO Certified	SCO Certified
Fast Ethernet NIC NC3131	SCO Certified	SCO Certified	SCO Certified
NetFlex-1 ENET	SCO Certified	SCO Certified	SCO Certified
NetFlex-1 Token Ring	SCO Certified	SCO Certified	SCO Certified
NetFlex-2 DualPort ENET	SCO Certified	SCO Certified	SCO Certified
NetFlex-2 DualPort Token Ring	SCO Certified	SCO Certified	SCO Certified
NetFlex-2	SCO Certified	SCO Certified	SCO Certified
NetFlex-2 TR	SCO Certified	SCO Certified	SCO Certified
NetFlex-2 TR	SCO Certified	SCO Certified	SCO Certified
NetFlex-3/E Controller	SCO Certified	SCO Certified	SCO Certified
NetFlex-3/P Controller	SCO Certified	SCO Certified	SCO Certified
Netelligent 10 T/2 PCI UTP/Coax	SCO Certified	SCO Certified	SCO Certified
Netelligent 10/100 TX PCI Dual	SCO Certified	SCO Certified	SCO Certified
Netelligent 10/100 TX PCI UTP	SCO Certified	SCO Certified	SCO Certified
Netelligent 100 FDDI PCI DAS Fiber SC	SCO Certified	SCO Certified	SCO Certified
Netelligent 100 FDDI PCI DAS UTP	SCO Certified	SCO Certified	SCO Certified
Netelligent 100 FDDI PCI SAS Fiber MIC	SCO Certified	SCO Certified	SCO Certified
Netelligent 100 FDDI PCI SAS Fiber SC	SCO Certified	SCO Certified	SCO Certified
Netelligent 100 FDDI PCI SAS UTP	SCO Certified	SCO Certified	SCO Certified
Netelligent 10BaseT PCI UTP	SCO Certified	SCO Certified	SCO Certified
Netelligent Integrated 10/100 TX	SCO Certified	SCO Certified	SCO Certified
Netelligent Integrated 10/100 TX	SCO Certified	SCO Certified	SCO Certified
Netelligent Integrated 10/100TX UTP	SCO Certified	SCO Certified	SCO Certified

IMPORTANT: Compaq does not support the Gigabit Ethernet NIC.

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Appendix B: Current OpenServer 5.0.5 System Configuration

When SmartStart begins the System Configuration Utility, the following should appear on your screen. Review each item and modify as appropriate.

```
Compaq ProLiant 1600 System Board
 Primary Operating System ..... SCO OpenServer 5

Embedded IDE Controller
   Standard Interface ..... Enabled as Second
Controller
   Drive Type - Unit 1 ..... CD-ROM
   Drive Type - Unit 2 ..... Not Installed

 Advanced Features
   Alternative A20 Switching ..... Enable Port 92
   Software Generated NMI ..... Disabled
   Fail-Safe Timer NMI ..... Disabled
   Bus-Master Timeout NMI ..... Disabled
   Parity Error Response ..... Enabled
   Hot Plug Keyboard ..... Enabled
   Erase non-volatile memory ..... Select to erase non-
volatile
                                   memory
   IOQ Setting ..... IOQ = 8

   F1 Boot Prompt ..... Enabled  - stop at
prompt
   Hot-Plug Reservation Options ..... Normal
   APIC Mode ..... Full Table - Mapped

 Slot 3 - Compaq Fast Ethernet NIC NC3120 PCI 10/100

 Network Resources ..... Enabled

Slot 4 - Compaq Fibre Channel PCI Controller

 Controller Resources ..... Enabled

 Controller Order ..... Fourth
 Drive Characteristics ..... View with Compaq
Array Configuration Utility

 Slot 5 - Compaq Smart Array 3200 Controller - Bus 1

 Controller Resources ..... Enabled

 Controller Order ..... Fifth
 Online Recovery Server Status ..... Disabled
 Drive Characteristics ..... View with Compaq
Array Configuration Utility

 SCSI Bus Speed ..... Auto-detection
```


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Appendix B: Current OpenServer 5.0.5 System Configuration (cont)

```
Cache Size ..................................... 56 MB
Firmware Revision .............................. 3.06
 Bus 1 - PCI Mass Storage Controller

 PCI Function 1 ................................ Enabled

 Embedded - Compaq Automatic Server Recovery (ASR)

 Automatic Server Recovery
   Software error recovery ..................... Disabled
   Software error recovery time-out ............ 10 minutes
   Standby recovery server option .............. Disabled
   Standby recovery server port ................ COM1
   Standby recovery time-out ................... 1 minute
   Software error recovery boot option ......... Boot operating system
   Thermal shutdown ............................ Disabled
   UPS shutdown ................................ Disabled
   UPS shutdown threshold ...................... 5 minutes

 Server Failure Notification
   Pager status ................................ Disabled
   Pager dial string ........................... None
   Pager message ............................... None
   Pager test .................................. Select to test pager
setup

 Remote Options
   Serial interface ............................ COM2
   Serial fixed baud rate ...................... None
   Port initialization commands ................ None
   Modem initialization commands ............... None
   Dial in status .............................. Disabled
   Dial out status ............................. Disabled
   Dial out string ............................. None
   Network status .............................. Disabled
   Network protocol ............................ IPX
   Network token-ring source routing ........... Disabled
   Network controller .......................... Compaq
   Network host name ........................... None
   Network card slot ........................... Slot 3
   Network frame type .......................... ETHERNET_802.3  (IPX
Only)
   Network IP address .......................... None
   Network IP netmask .......................... None
   Network IP router address ................... None


 Embedded - Compaq Integrated Remote Console (IRC)

 General IRC Information
   Remote Console Functions .................... Disabled

 Embedded - Compaq Integrated Management Display Information
```


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Appendix B: Current OpenServer 5.0.5 System Configuration (cont)

```
Integrated Management Display ..................... Installed
 Event Alert Notification ......................... Enabled
 Idle Screen Text ................................. Not Specified
 Custom Menu Item ................................. Not Specified
 Custom Menu Screen ............................... Disabled

 Server Information
   Server Name .................................... Not Specified
   Asset Tag ...................................... Not Specified
   Primary Operating System ....................... Not Specified
   Other .......................................... Not Specified

 Administrator Information
   Name ........................................... Not Specified
   Phone number ................................... Not Specified
   Pager number ................................... Not Specified
   Other .......................................... Not Specified

 Service Contact Information
   Name ........................................... Not Specified
   Phone number ................................... Not Specified
   Pager number ................................... Not Specified
   Other .......................................... Not Specified
 Embedded - Compaq Wide-Ultra SCSI Controller (Port 1)

 SCSI Resources ................................... Enabled

 Controller Order ................................. First
 Host Adapter Number .............................. 0
 Bus Speed ........................................ Auto-detection

 Attached Devices
   SCSI ID 0 ...................................... COMPAQ 4.29-GB Hard
Drive

 BIOS Hard Drive Geometry ......................... <=1GB:  64 Heads, 32
Sectors> 1GB:  255 Heads, 63
                                                    Sectors

 Embedded - Compaq Wide-Ultra SCSI Controller (Port 2)

 SCSI Resources ................................... Enabled

 Controller Order ................................. Third
 Host Adapter Number .............................. 1
 Bus Speed ........................................ Auto-detection


 BIOS Hard Drive Geometry ......................... <=1GB:  64 Heads, 32
Sectors
                                                          > 1GB:  255
Heads, 63
```


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